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chamber, be employed for a continued blast in blowpipe analysis.

A very satisfactory test was obtained by attaching the rubber tube of a medium-sized bulb immediately to the blowpipe and using the muscular contraction of the hand instead of the cheeks—much to the relief of the latter. The strength of the blast was surprising. A strong oxidizing flame of about two inches could be secured easily and with a small amount of gas-supply and one filling of the bulb, a steady flame was given for more than a half-minute. A larger size foot-apparatus proved much more powerful. The only difficulty was that it was not easy to make a small reducing flame. For handy and continuous work with difficultly reducible minerals—shortening many processes very much—and in giving the instructor an opportunity to teach during his personal blowpipe instruction, it has considerable practical value, besides doing away with the necessity of bringing the lips into contact with the blowpipe.

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SPECIAL ARTICLES

TRANSPLANTATION OF FORMALDEHYDE-FIXED BLOOD VESSELS

It has been demonstrated that segments of blood vessels may be transplanted successfully from one species of animal into another, *e. g.*, cat or rabbit into dog.¹ Consideration of these results led me to transplant segments of blood vessels that had been preserved in some fixing solution.²

In the case here reported abdominal vena cava of dog preserved in 2.5 per cent. formalin (in 0.9 per cent. NaCl) for 60 days was used. The day before the operation the segment, which was about 0.75 cm. long and 0.5 cm. in diameter, was removed from the formalin

¹ Carrel, *Journal of Experimental Medicine*, IX., p. 226, 1907; Guthrie, *American Journal of Physiology*, XIX., p. 482, 1907; Guthrie, *Proceedings American Physiological Society*, 1907.

² Guthrie, *American Journal of Physiology*, XIX., p. 486, 1907.

solution, washed in dilute ammonia, dehydrated in absolute alcohol and impregnated with paraffine oil. It was interposed between and sutured to the cut ends of the right common carotid artery of a medium-sized bitch. The diameter of the artery was considerably less than that of the venous segment.

The animal made a rapid and uneventful recovery, the wound healing promptly. Clinical examination 22 days after the operation revealed a strong pulsation on the course of the artery at the site of the transplanted segment. The following day the neck was opened and the vessel directly examined. The segment was found to be about 1.5 cm. long and .75 cm. in diameter. It pulsated strongly and the circulation through it was excellent. The walls appeared to be slightly thickened but pliable. In appearance it resembled similar segments transplanted immediately after removal. The wound was closed and the animal returned to its cage. No histological studies have as yet been made, but material is being accumulated for that purpose.

Conclusion.—A segment of dog's abdominal vena cava preserved in formaldehyde for two months and then interposed between the ends of a dog's carotid artery may adequately serve the mechanical function of an artery for more than three weeks.

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A DROUGHT-RESISTANT HICKORY

WHILE investigating the distribution of the hickories in western Arkansas, in behalf of the federal forest service, the writer recently had occasion to note the drought-resistant quality of a little-known member of the genus—a variety probably most closely related to *Hicoria glabra* var. *odorata* Sarg.¹ This form

¹ The form occurring in Arkansas does not seem to conform closely either to *H. glabra* var. *odorata* Sarg. or to *H. villosa* Ashe. The writer, however, strongly disapproves of the publication of any new species, or even varieties in this genus, until the limits of present accepted forms be more accurately established.